

Serial No. 10/632,988
Amdt. dated May 31, 2007
Reply to Office Action of March 8, 2007

Docket No. YHK-0115

Listing of Claims

1. (Currently Amended) A method of driving a plasma display panel using frames, each frame divided into a plurality of sub-fields, comprising :

applying a first driving waveform to said sub-fields at a temperature at a first prescribed temperature; and

applying a second driving waveform different from the first driving waveform to said sub-fields at a second prescribed temperature, the first and second prescribed temperature being different,

wherein each of said sub-fields includes a plurality of periods, one of the periods being an initialization period, which includes a set-up interval for forming wall charges at a discharge cell and a set-down interval for erasing a portion of the wall charges formed during the set-up interval,

wherein waveforms applied in the set-up interval of the first and second driving waveforms are different from each other while waveforms applied in the other periods are substantially identical to each other, and

wherein each of the sub-fields includes a sustain period and wherein the sustain period and a number of sustain pulses in the sustain period of each sub-field is independent of a temperature of the plasma display panel.

2-3. (Canceled)

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4. (Previously Presented) The method as claimed in claim 1, wherein the step of applying the first waveform comprises:

applying a rising ramp waveform to a scan electrode provided at each discharge cell during the set-up interval;
applying a ground voltage to a common sustain electrode provided, in parallel with the scan electrode, at each discharge cell in a first half of the set-up interval; and
floating the sustain electrode in a second half of the set-up interval.

5. (Previously Presented) The method as claimed in claim 1, the steps of applying a second driving waveform comprises:

applying a rising ramp waveform to a scan electrode provided at each discharge cell during the set-up interval; and
applying a ground voltage to a common sustain electrode provided, in parallel with the scan electrode, at each discharge cell during the set-up interval.

6. (Previously Presented) The method as claimed in claim 1, wherein said second prescribed temperature is within a range of temperature is 20°C to -50°C.

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7. (Previously Presented) A method of driving a plasma display panel using frames, each frame being divided into a plurality of subfields, an initialization period included in each sub-field is divided into a set-up interval and a set-down interval, comprising:

displaying a picture on the panel;

sensing a driving temperature of the panel; and

setting a driving waveform to be applied in the set-up interval in correspondence with said driving temperature of the panel,

wherein a first driving waveform supplied when said driving temperature of the panel is a first prescribed temperature is different from a second driving waveform supplied when said driving temperature of the panel is a second prescribed temperature, which is different from the first prescribed temperature, and

wherein each of said sub-fields includes a plurality of periods, one of the periods being the initialization period, and

wherein waveforms applied in the set-up interval of the first and second driving waveforms are different from each other while waveforms applied in the other periods are substantially identical to each other.

8. (Canceled)

9. (Previously Presented) The method as claimed in claim 7, wherein the step of applying the second waveform comprises:

applying a rising ramp waveform to a scan electrode provided at each discharge cell during the set-up interval; and

applying a ground voltage to a common sustain electrode provided, in parallel with the scan electrode, at each discharge cell during the set-up period.

10. (Previously Presented) The method as claimed in claim 7, wherein the step of applying the first waveform comprises:

applying a rising ramp waveform to a scan electrode provided at each discharge cell during the set-up interval;

applying a ground voltage to a common sustain electrode provided, in parallel with the scan electrode, at each discharge cell in a first half of the set-up interval; and floating the sustain electrode in a second half of the set-up interval.

11. (Previously Presented) A driving apparatus for a plasma display panel, comprising:
a temperature sensor for sensing a driving temperature of the panel;
a switching device provided between a plurality of common sustain electrodes provided at the panel and a ground voltage source; and

a controller for controlling a turning-on and a turning-off of the switching device during an initialization period of each sub-field of a frame, which includes a set-up interval and a set-down interval, in correspondence with a temperature inputted from the temperature sensor, wherein said controller differently controls said turning-on and said turning-off of the switching device when a driving temperature inputted from the temperature sensor is a first prescribed temperature and when a driving temperature inputted from the temperature sensor is a second prescribed temperature , the first and second temperatures being different, and wherein waveforms applied in the set-up interval of the first and second driving waveforms are different from each other while waveforms applied in the other periods of the sub-field are substantially identical to each other.

12. (Canceled)

13. (Previously Presented) The driving apparatus as claimed in claim 11, wherein said controller turns on the switching device in a first half of the set-up interval while turning off the switching device in a second half of the set-up interval to float the common sustain electrode when a driving temperature inputted from the temperature sensor is said first prescribed temperature.

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14. (Previously Presented) The driving apparatus as claimed in claim 11, wherein said controller turns on the switching device during the set-up interval when a driving temperature inputted from the temperature sensor is said second prescribed temperature.

15. (Original) The driving apparatus as claimed in claim 11, further comprising:
a sustain driver for driving the common sustain electrode;
a scan driver for driving a plurality of scan electrodes provided in parallel with the common sustain electrode; and
a data driver for driving a plurality of address electrode provided in a direction crossing the common sustain electrode,
wherein said timing controller controls the sustain driver, and the scan driver and the data driver.

16–19. (Canceled)

20. (Previously Presented) The method of claim 1, wherein the first prescribed temperature is within a first prescribed temperature range, and the second prescribed temperature is within a second prescribed temperature range, wherein the first prescribed temperature range includes temperatures, which are higher than temperatures within the second prescribed temperature range.

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21. (Previously Presented) The method of claim 7, wherein the first prescribed temperature is within a first prescribed temperature range, and the second prescribed temperature is within a second prescribed temperature range, wherein the first prescribed temperature range includes temperatures, which are higher than temperatures within the second prescribed temperature range.

22. (Previously Presented) The method of claim 11, wherein the first prescribed temperature is within a first prescribed temperature range, and the second prescribed temperature is within a second prescribed temperature range, wherein the first prescribed temperature range includes temperatures, which are higher than temperatures within the second prescribed temperature range.